

# Violent mortality in Senegal: level and causes in three rural areas

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# Objectives

- There is little information on violent mortality in developing countries
- It is true in particular of Sub-saharan Africa
- Our study provides original measures of level and causes of violent mortality in several rural areas of Senegal.

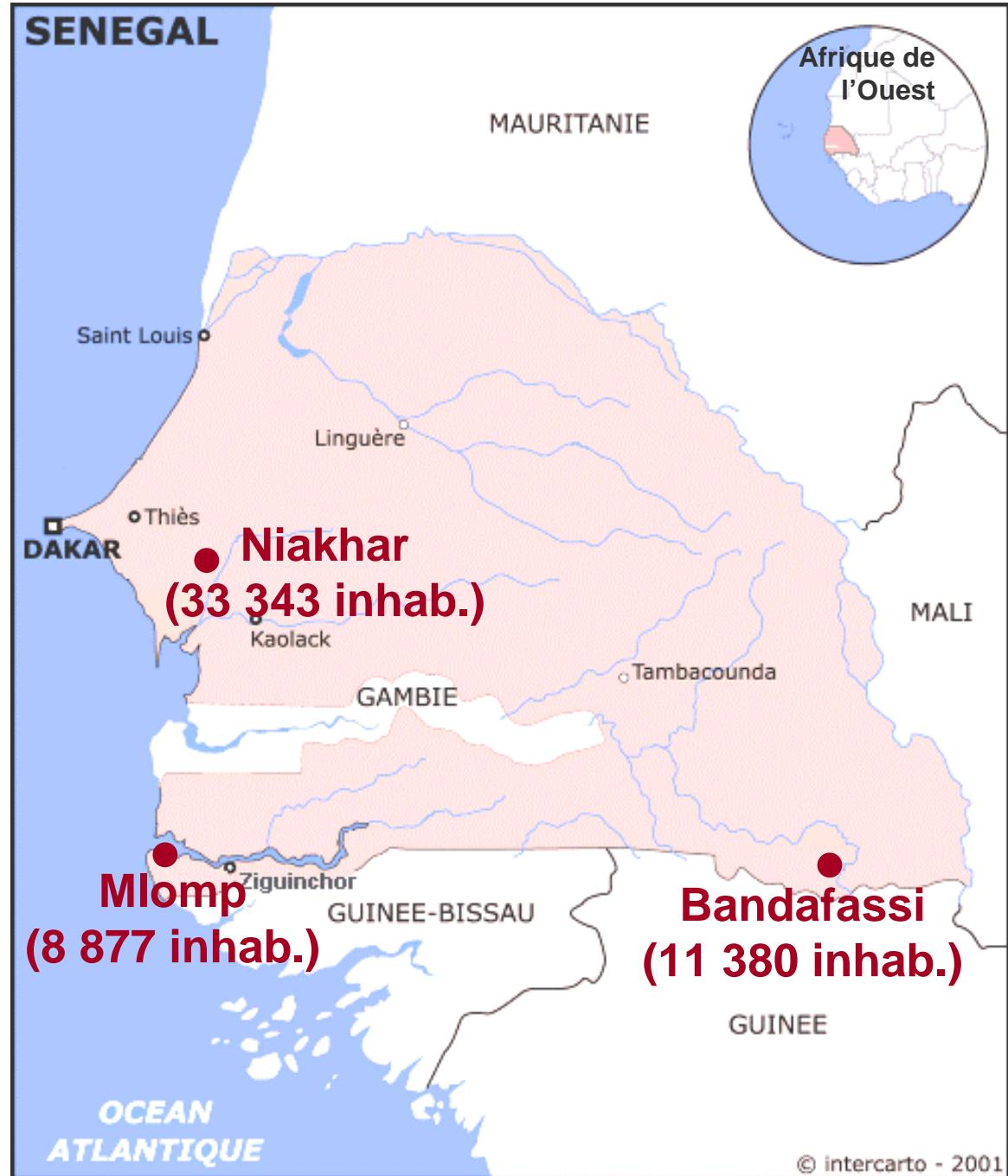
# Method

- **Collection of complete data on mortality and causes of death,**
- **In three rural areas**
- **With the same method, so the measures are comparable.**

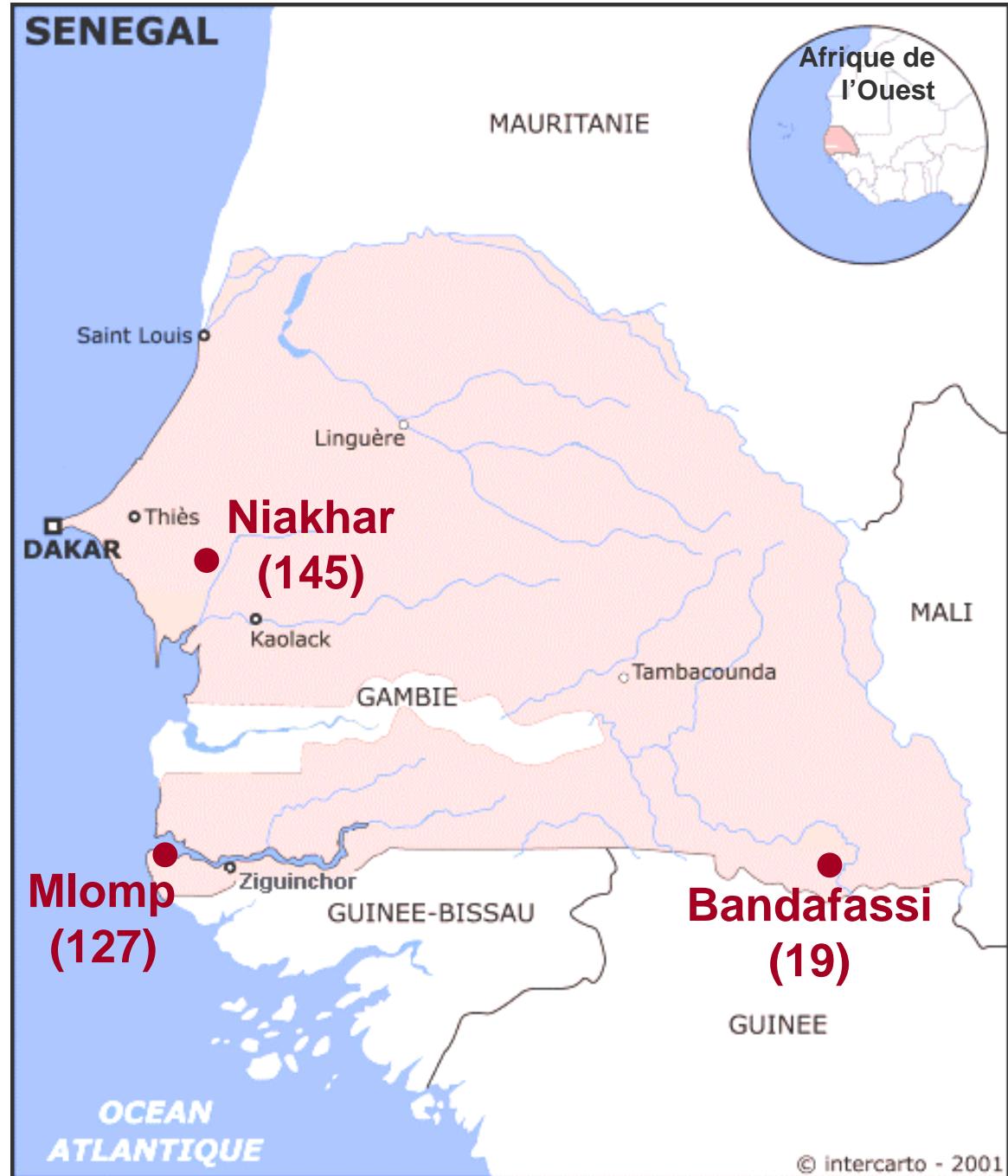


# The three rural populations studied

# 1. Geographical location and population size on 1st January 2004



## 2. Population density in 2004 (inhab./sq km)



### 3. Environment and activities

# Bandafassi

- A region of forest savanna
- Land is only partly cultivated.
- There is still abundant wildlife.



- Main activities : agriculture (millet, maize, arachides, sorghum) and stock breeding.

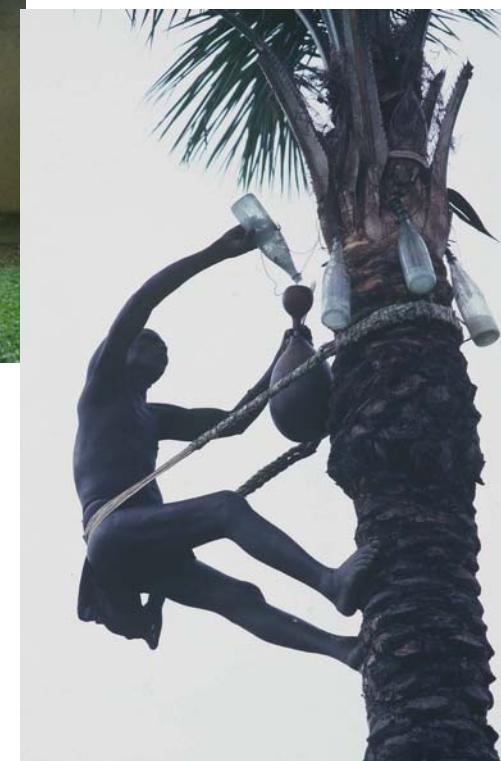


# Mlomp

- A region of mangroves cultivated for rice.
- Most of the land is cultivated.



- One of the men's main activities : collection of palm wine,
- and also fishing



# Niakhar



- **Main activities :** agriculture (millet, maize, arachides) and stock breeding.

- A region of savanna.
- Almost all the land is cultivated.



# Different levels of mortality

	<b>BANDAFASSI 1985-2004</b>	<b>MLOMP 1985-2003</b>	<b>NIAKHAR 1985-2003</b>
<b>Mortality before age 5 (5q0 per thousand)</b>	<b>243</b>	<b>105</b>	<b>210</b>

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<b>Life expectancy at birth (in years)</b> women	48	65	54
men	47	57	50
<b>Risk for a 15 year old person of dying before age 49 (35q15 per thousand)</b> women	206	95	148
men	207	190	162

# Data collection method (1)

## Follow up of the population



# Data collection method (2)

- **Repeated rounds in the villages**
- **To collect :**
  - births,
  - deaths,
  - marriages,
  - migrations.
- **For every death :**
  - Verbal autopsy interview to determine the cause of death.

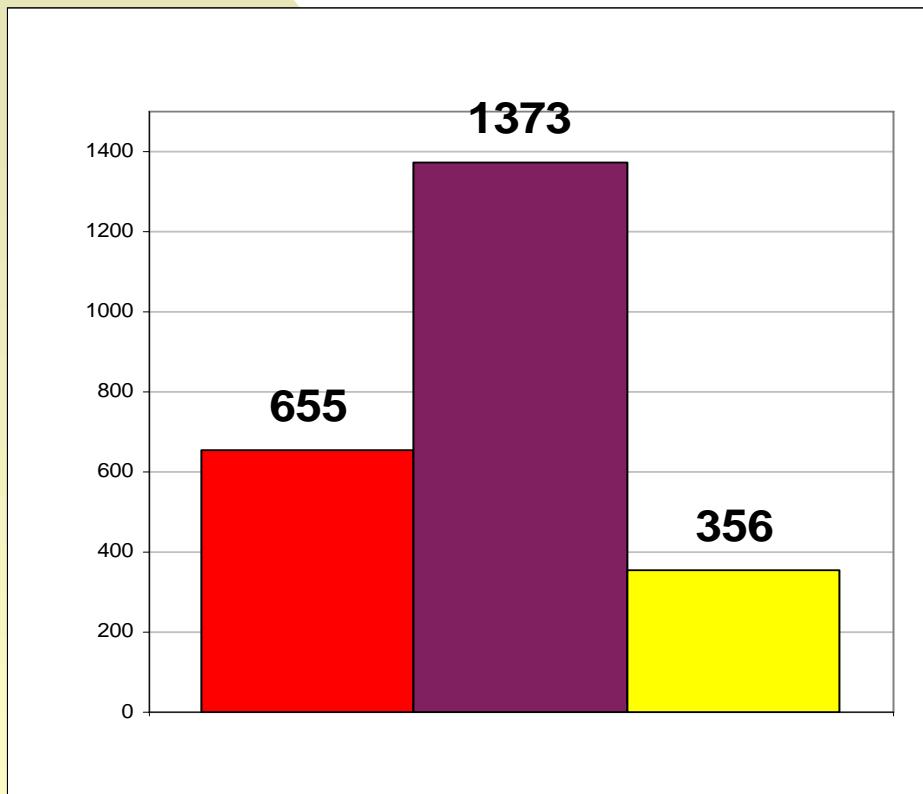


# Results

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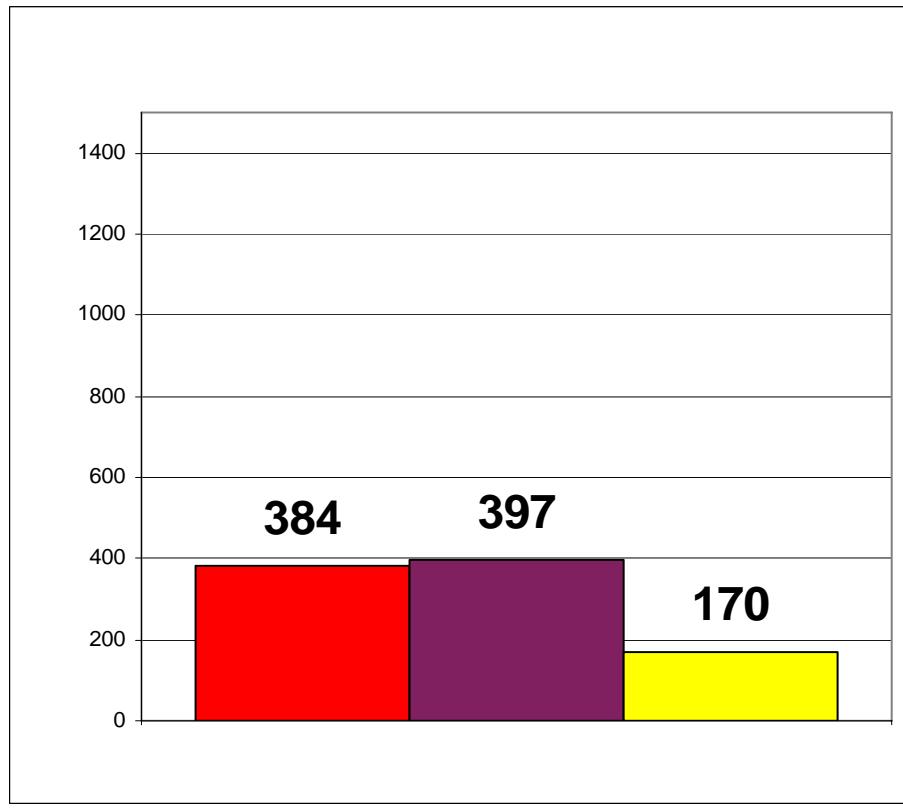
Number of violent deaths per year and per million inhabitants  
(period 1985-2003)

Men



Bandafassi Mlomp Niakhar

Women



Bandafassi Mlomp Niakhar

Level of violent mortality varies  
according to sex and site

# Two death causes specific to Mlomp :

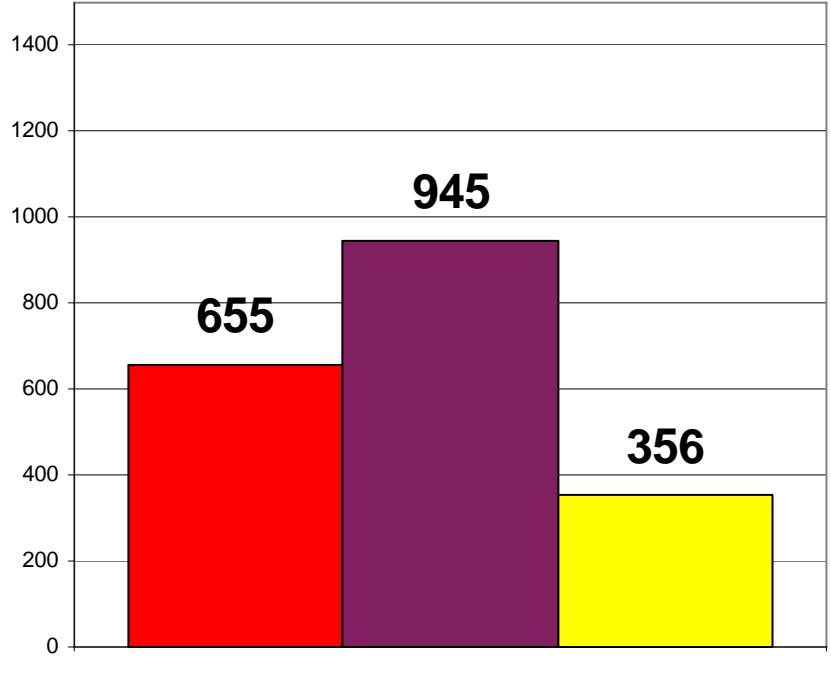
- Civil war in Casamance region : 14 deaths (only men) since 1985.



- the sinking of the boat «Joola» on 26/09/2002 : nearly 1,900 deaths, 35 being inhabitants of Mlomp (19 men and 16 women).

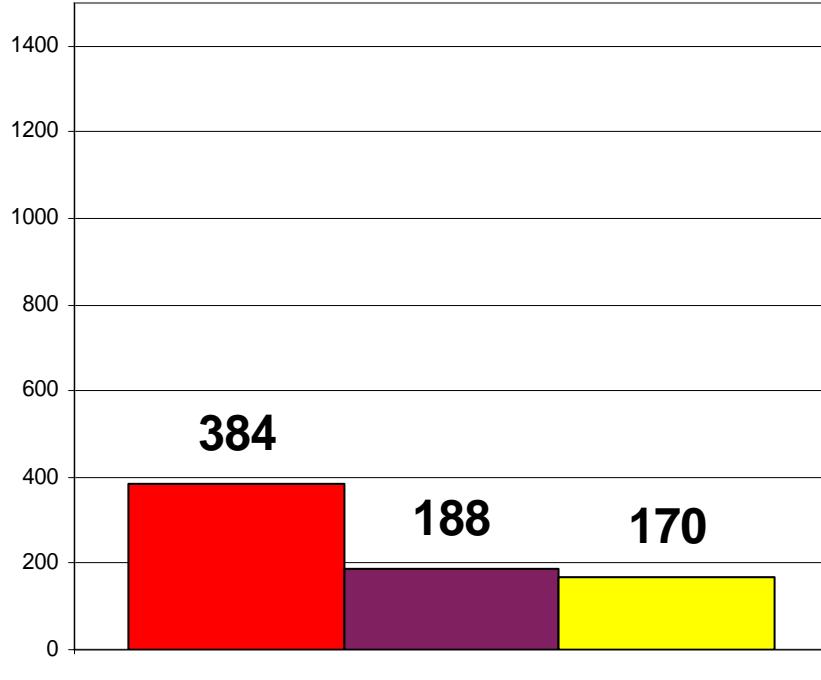
# Number of violent deaths per year and per million inhabitants without the deaths from the civil war and the « Joola » tragedy (period 1985-2003)

## Men



Bandafassi   Mlomp   Niakhar

## Women



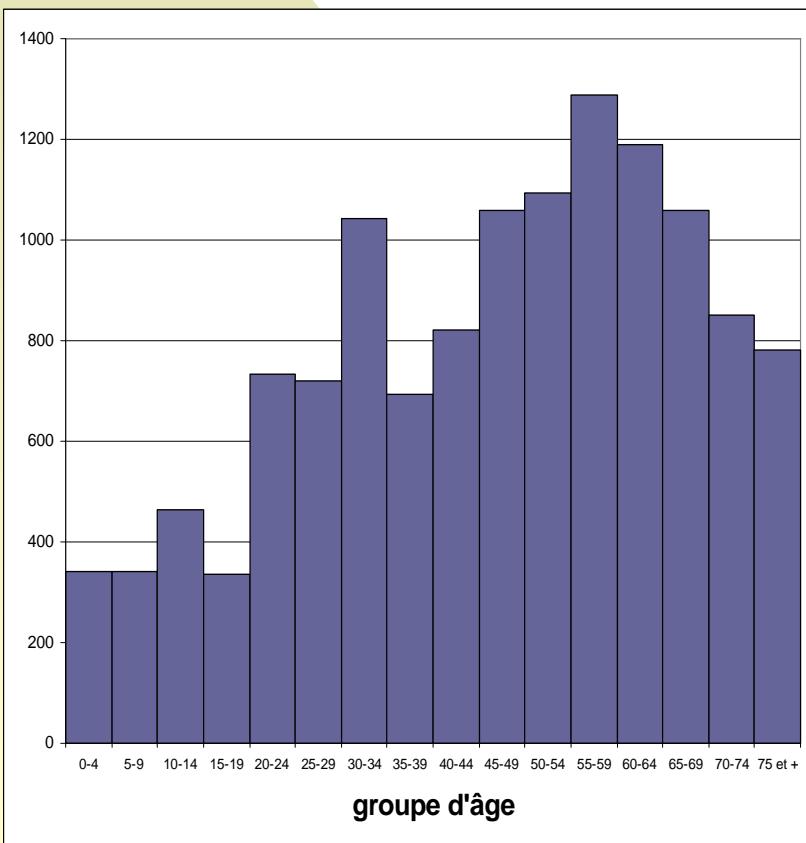
Bandafassi   Mlomp   Niakhar

**Violent mortality stands still high among men of Mlomp**

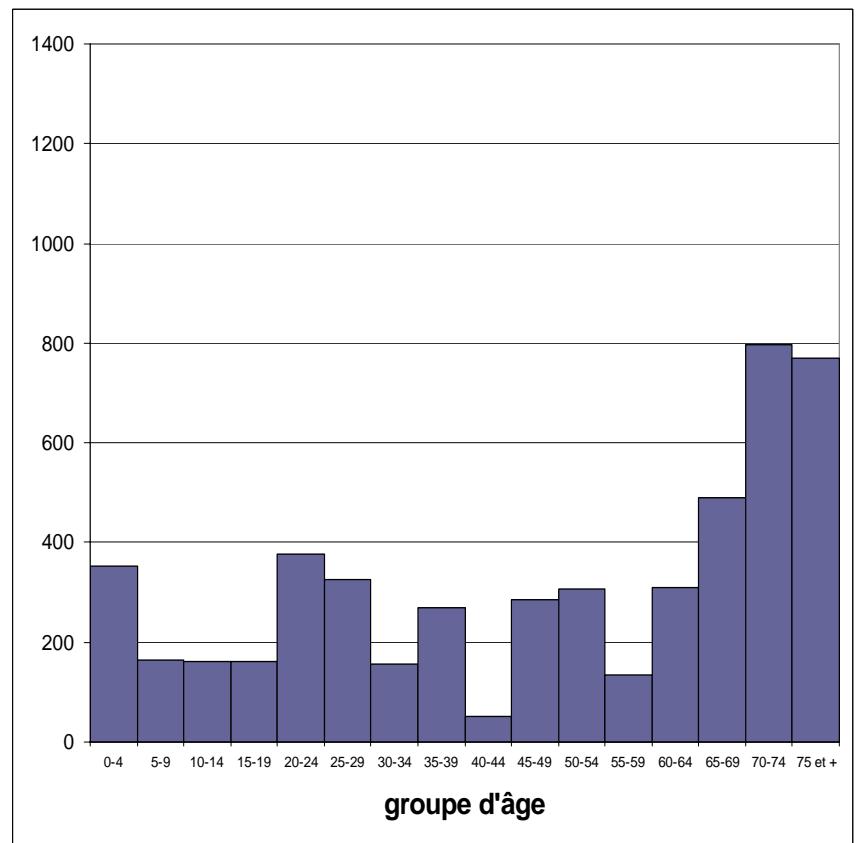
# Age variations

Number of violent deaths per year and per million inhabitants (period 1985-2003, all sites)

Men



Women



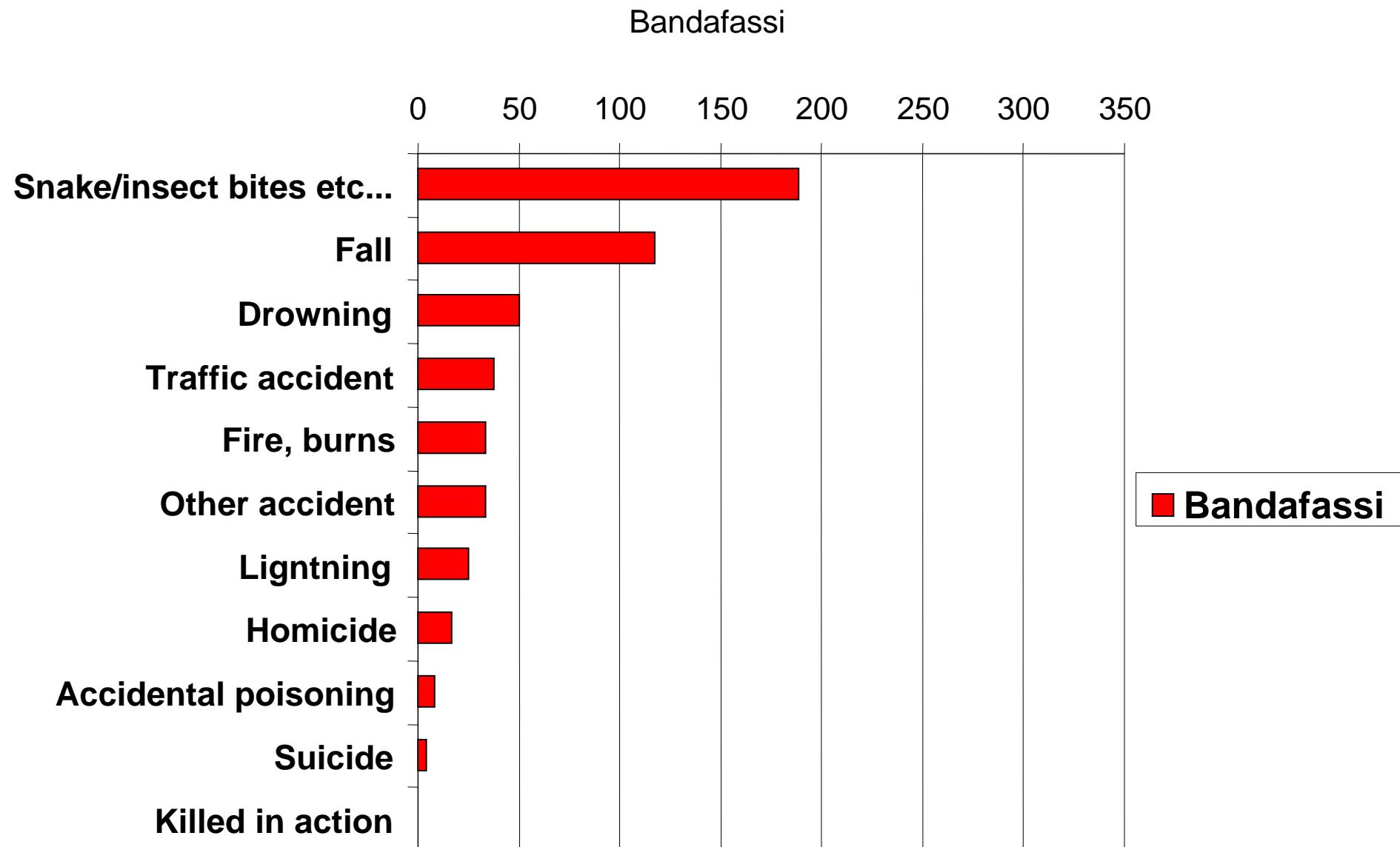
Sex differences are large

# What explains the site differences ?

- **Detailed analysis of causes of death**

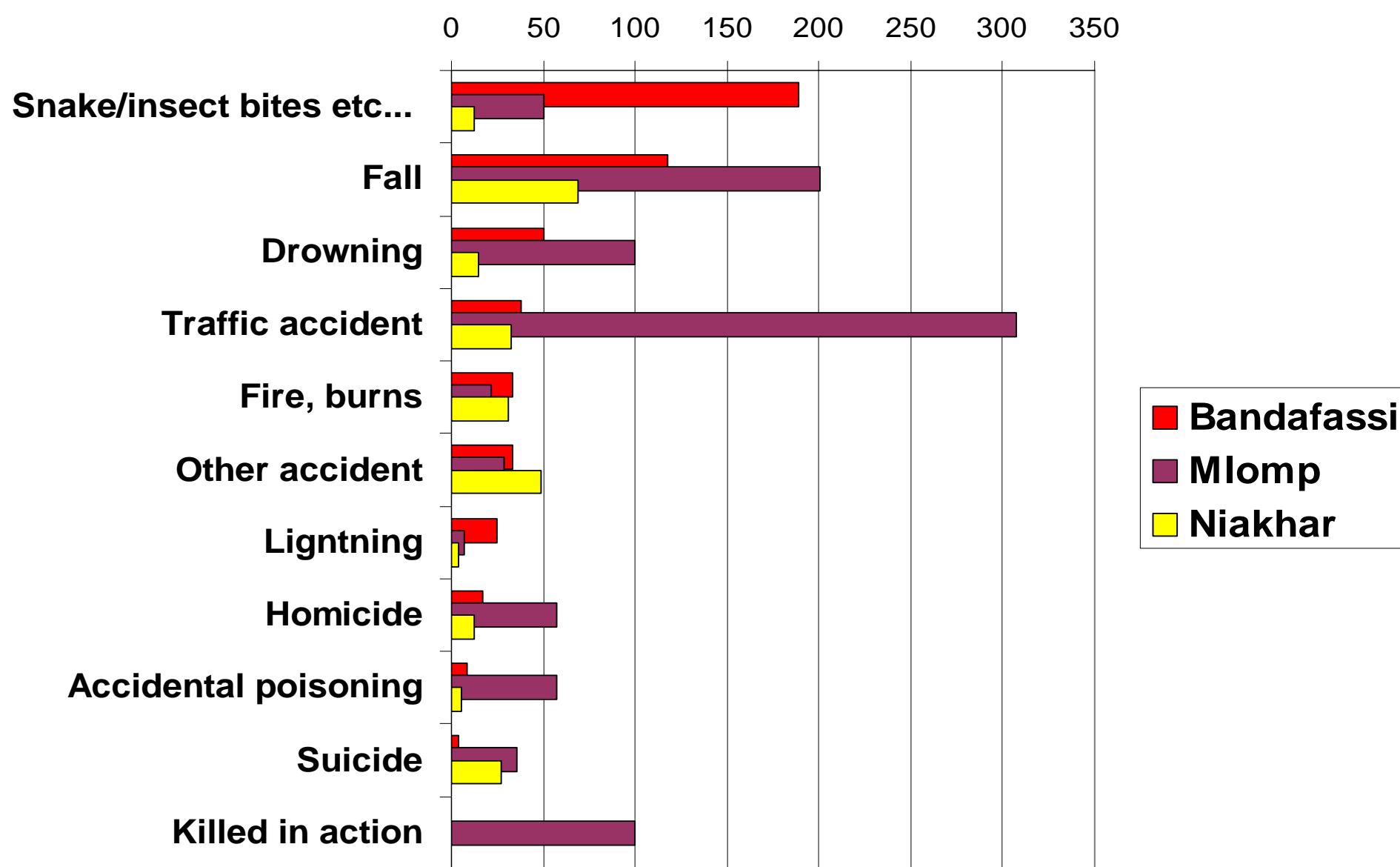
# Causes of violent deaths

Number of violent deaths per year and per million inhabitants, both sexes



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# Snake bite, an important cause of death at Bandafassi

- 130 annual deaths per million inhabitants (more than road accident mortality in Europe)
- factors :
  - Low population density and an environment which allows the maintenance of wildlife
  - activities (agriculture, hunting) favour contacts between humans and wild animals
  - Snake bites are frequent: 7 per year per thousand inhabitants
  - Snake bites are not treated in time



# Snake bites

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<b>Incidence of snake bites (per year per thousand inhabitants)</b>	7	1	0,2



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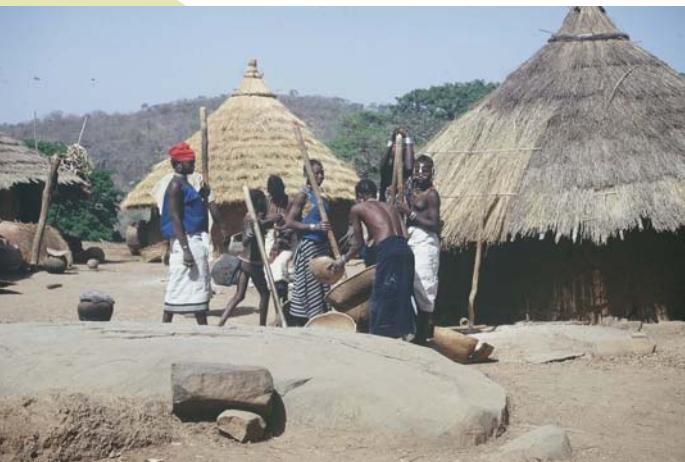


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<b>Mortality (per year per thousand inhabitants)</b>	130	36	15

# Conclusions

- A « rural » mortality:
  - death from road accidents is still rare
  - But many deaths from falls, bites, etc.
- Differences between regions are large:
  - level
  - causes of death
- How to extrapolate to the whole country?
  - A difficult task
  - Make use of density and activity maps?





Thanks for  
your  
attention

